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| 09/422,018      | 10/21/1999  | JAMES A. SIEVERT     | RA-5236(USYS        | 4961             |

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| EXAMINER |
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| ART UNIT | PAPER NUMBER |
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2124

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DATE MAILED: 04/07/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/422,018

Examiner

William H. Wood

Applicant(s)

SIEVERT, JAMES A.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 23 January 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

Claims 1-17 are pending and have been examined.

#### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Gibbons** et al. (USPN 6,412,019) in view of **Shepherd** et al, "The Visual Programmer" (October 1997).

In regard to claim 1, **Gibbons** disclosed the limitations:

- ♦ *A computer-implemented method for implementing a hierarchy of interfaces*  
(Figures 3 and 4; column 3, lines 24-30; column 6, lines 25-35), *comprising:*
  - ♦ *defining a hierarchy of interfaces, wherein an interface at a lowest level of the hierarchy inherits from an interface at the highest level of the hierarchy*  
(Figure 4);

**Gibbons** did not explicitly state *component object model interfaces; template classes associated with the hierarchy; and instantiating the second template class with an interface as a template parameter*. **Shepherd** demonstrated that it was known at the time of invention to use COM, component object model, for interfaces (page 1 of 11,

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first paragraph), template classes associated with the hierarchy (page 9 of 11, second code segment; template class shown by instantiating class with templates and using interface calls, "IdispatchImpl") and inheriting from other template classes (page 9 of 11, second code segment; inheritance operation using classes taking template parameters) and an interface template parameter (page 9 of 11, second code segment). It would have been obvious to one of ordinary skill in the art at the time of invention to implement **Gibbons'** hierarchy of interfaces with a COM base and a templating ability as found in **Shepherd's** teaching, thus developing an inheritance interface system, which is parameterized with templates. This implementation would have been obvious because one of ordinary skill in the art would be motivated to provide a system utilizing COM as it is well known (and especially useful in the Microsoft world) and utilizing templates as they produce code which is very extensible while at the same time reducing bloated code.

In regard to claim 2, **Gibbons** and **Shepherd** disclosed the limitation *wherein the second template class inherits directly from the first template class* (inherent to the concepts of inheritance disclosed above in the references).

In regard to claim 3, **Gibbons** and **Shepherd** disclosed the limitation *wherein the second template class inherits indirectly from the first template class* (inherent to the concepts of inheritance disclosed above in the references).

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In regard to claim 4, **Gibbons** and **Shepherd** disclosed the limitation *further comprising defining a plurality of intermediate classes in a inheritance arrangement, one of the intermediate classes inheriting from the first template class, and the second template class inheriting from another one of the intermediate classes* (inherent to the concepts of inheritance disclosed above in the references). **Gibbons** and **Shepherd** did not teach single inheritance explicitly. Official Notice is taken that it was known at the time of invention to use single inheritance. It would have been obvious to one of ordinary skill in the art at the time of invention to implement **Gibbons** and **Shepherd** with single inheritance as is well known in the art. This implementation would have been obvious because one of ordinary skill in the art would be motivated to make use of a simpler type of inheritance to avoid programming difficulties resulting in ambiguities of inheritance.

In regard to claim 5, **Gibbons** and **Shepherd** disclosed the limitation *wherein one or more of the intermediate classes are template classes* (inherent to the concepts of inheritance disclosed above in the references; template classes are shown, and inheritance often involves a chain of inheritances).

In regard to claim 6, **Gibbons** and **Shepherd** disclosed the limitation *further comprising defining an intermediate class, the intermediate class inheriting from the first template class, and the second template class inheriting from the intermediate class* (inherent to

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the concepts of inheritance disclosed above in the references; template classes are shown, and inheritance often involves a chain of inheritances).

In regard to claim 7, **Gibbons** and **Shepherd** disclosed the limitation *wherein the intermediate class is a template class* (inherent to the concepts of inheritance disclosed above in the references; template classes are shown, and inheritance often involves a chain of inheritances).

In regard to claim 8, **Gibbons** and **Shepherd** disclosed the limitation *wherein the interface provided as the template parameter is an interface at the lowest level of the hierarchy* (inherent to the concepts of inheritance disclosed above in the references; template classes are shown, and inheritance often involves a chain of inheritances).

In regard to claim 9, **Gibbons** and **Shepherd** disclosed the limitations, further comprising:

- ♦ *extending the hierarchy of component object model interfaces to include a new interface defined at the lowest level of the hierarchy, wherein the new interface inherits from the interface at the highest level of the hierarchy;*
  - ♦ *defining a third template class that inherits from the first template class and is associated with the new interface defined at the lowest level of the hierarchy;*
- and*

- ♦ *instantiating the third template class with the new interface as a template parameter.*

These limitations are met essentially the same as above for the second template class noted in claim 1's rejection.

In regard to claim 10, **Gibbons** and **Shepherd** disclosed the limitation, *further comprising defining ActiveX Template Library interface maps in the first template class and in the second template class, respectively* (**Gibbons**: page 1 of 11, first paragraph, ATL which includes ActiveX Template Library interface maps).

In regard to claims 11-15, the limitations correspond to those found in claims 1-10 and are rejected in the same manner.

In regard to claim 16, the limitations correspond to claims 1 and 2 and as such are rejected now in the same manner as claims 1 and 2 above.

In regard to claim 17, the limitations correspond to claim 16 and as such are rejected now in the same manner.

### ***Response to Arguments***

3. Applicant's arguments filed 23 January 2004 have been fully considered but they are not persuasive. Applicant argued: <sup>1)</sup> **Gibbons** and **Sh pherd** failed to demonstrate

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the combined limitations of claim 1, including *template class associated with a component object model interface; component object model interface at a lowest level in the hierarchy and an associated second template class; and a template parameter in the instantiation of the second template class*; <sup>ii)</sup> there is no motivation to combine **Gibbons** and **Shepherd**; <sup>iii)</sup> lack of inherency for various claims; and <sup>iv)</sup> that the cited prior art fails to demonstrate interface maps (in regard to claim 10). Each of these issues is incorrect and will be discussed below.

As to the first issue, **Shepherd** illustrated a template class *associated with a component object model interface* (page 9 of 11, second code segment). Applicant admits the cited class includes template parameters (page 5 of amendment received on 23 January 2004, last paragraph). In the cited portion of **Shepherd**, the class CApartmentOb is the template class by the fact of the template parameters following it. "Associated" (a rather broad term) with that class is the COM interface found in lines "public IDispatchImpl<IApartmentOb, &IID\_CApartmentOb, &LIBID\_DLLSVRLib>". As to the additional limitations, the combined references disclosed also: "component object model interface at the lowest level in the hierarchy" (interfaces are shown to exist in hierarchy, **Gibbons**); "and an associated second template class" (**Shepherd** illustrated a first template class as discussed; additional template classes are based upon the same citing as software is implemented using any number of classes and thus template classes). Finally, "a template parameter in the instantiation of the second template class" is shown by **Sh pherd**'s implementation of parameters in template classes in general.



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As to the second issue, there is motivation as previously described to combine **Gibbons** and **Shepherd**. The motivation is simply that templates allow for extending software flexibility and extensibility and are known (as demonstrated by the prior art of record), thus one of ordinary skill in the art would be motivated to implement a hierarchy of object oriented interfaces (as disclosed by the prior art) with template parameterization. This is the motivation for combining **Gibbons** and **Shepherd**.

As to the third issue, that which was stated as inherent previously is inherent. Applicant broadly refutes this without citing specific examples. Thus, for expediency, only one inherency example will be discussed here. Claim 2 recites, *wherein the second template class inherits directly from the first template class*. This is inherent in so much as object oriented classes (discussed by both **Gibbons** and **Shepherd**) inherit from each other in various configurations. Inheriting from one class or another is basic programming knowledge fundamental to object oriented programming. Furthermore, as discussed by the previous claim 1, the first and second template classes are disclosed by the combined prior art. The issue of directly is merely a function of how deep the classes are within the hierarchy (also shown by the cited prior art). Thus, claiming a known class, inherits directly from another known class is inherent. The other claims rejected under inherency will be found to have similar supporting arguments.

As to the fourth issue, **Shepherd** does disclose interface maps (though without explicitly notation). Interface maps are a part of ATL, ActiveX Template Library.

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The above arguments are believed to address all of Applicant's concerns regarding specific claims and all additional claims. As such, the rejections are maintained.

### ***Conclusion***

4. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

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***Correspondence Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to William H. Wood whose telephone number is (703)305-3305. The examiner can normally be reached 7:30am - 5:00pm Monday thru Thursday and 7:30am - 4:00pm every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kakali Chaki can be reached on (703)305-9662. The fax phone numbers for the organization where this application or proceeding is assigned are (703)746-7239 for regular communications and (703)746-7238 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)305-3900.

William H. Wood  
March 23, 2004



**KAKALI CHAKI  
SUPERVISORY PATENT EXAMINER  
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